

|    |       | Hydrophobic |             |             | Hydrophilic |             |
|----|-------|-------------|-------------|-------------|-------------|-------------|
|    |       | -2          | -1          | 0           | 1           | 2           |
|    |       | ----- ----- | ----- ----- | ----- ----- | ----- ----- | ----- ----- |
| 1  | 0.00  |             |             | M           |             |             |
| 2  | 0.00  |             |             | H           |             |             |
| 3  | -0.15 |             |             | = R         |             |             |
| 4  | -0.29 |             |             | === L       |             |             |
| 5  | -0.71 |             |             | ===== I     |             |             |
| 6  | -1.38 |             |             | ===== F     |             |             |
| 7  | -1.49 |             |             | ===== V     |             |             |
| 8  | -1.61 |             |             | ===== Y     |             |             |
| 9  | -1.47 |             |             | ===== T     |             |             |
| 10 | -1.30 |             |             | ===== L     |             |             |
| 11 | -0.88 |             |             | ===== I     |             |             |
| 12 | -1.23 |             |             | ===== C     |             |             |
| 13 | -1.10 |             |             | ===== A     |             |             |
| 14 | -0.75 |             |             | ===== N     |             |             |
| 15 | -0.75 |             |             | ===== F     |             |             |
| 16 | -0.17 |             |             | == C        |             |             |
| 17 | 0.30  |             |             | S ===       |             |             |
| 18 | 0.65  |             |             | C =====     |             |             |
| 19 | 0.87  |             |             | R =====     |             |             |
| 20 | 0.73  |             |             | D =====     |             |             |
| 21 | 0.83  |             |             | T =====     |             |             |
| 22 | 0.33  |             |             | S ===       |             |             |
| 23 | -0.13 |             |             | = A         |             |             |
| 24 | -0.02 |             |             | T           |             |             |
| 25 | -0.15 |             |             | = P         |             |             |
| 26 | -0.02 |             |             | Q           |             |             |
| 27 | -0.25 |             |             | === S       |             |             |
| 28 | 0.25  |             |             | A ===       |             |             |
| 29 | 0.13  |             |             | S =         |             |             |
| 30 | -0.22 |             |             | == I        |             |             |
| 31 | 0.37  |             |             | K =====     |             |             |
| 32 | 0.35  |             |             | A =====     |             |             |
| 33 | 0.57  |             |             | L =====     |             |             |
| 34 | 0.10  |             |             | R =         |             |             |
| 35 | -0.12 |             |             | = N         |             |             |
| 36 | 0.68  |             |             | A =====     |             |             |
| 37 | 0.68  |             |             | N =====     |             |             |
| 38 | 1.15  |             |             | L =====     |             |             |
| 39 | 1.73  |             |             | R =====     |             |             |
| 40 | 1.75  |             |             | R =====     |             |             |
| 41 | 2.08  |             |             | D =====     |             |             |
| 42 | 1.50  |             |             | E =====     |             |             |
| 43 | 0.70  |             |             | S =====     |             |             |
| 44 | 0.13  |             |             | N =         |             |             |
| 45 | 0.13  |             |             | H =         |             |             |
| 46 | -0.22 |             |             | == L        |             |             |
| 47 | -0.63 |             |             | ===== T     |             |             |
| 48 | -0.05 |             |             | D           |             |             |
| 49 | 0.75  |             |             | L =====     |             |             |
| 50 | 1.32  |             |             | Y =====     |             |             |
| 51 | 1.32  |             |             | R =====     |             |             |
| 52 | 1.55  |             |             | R =====     |             |             |
| 53 | 1.63  |             |             | D =====     |             |             |

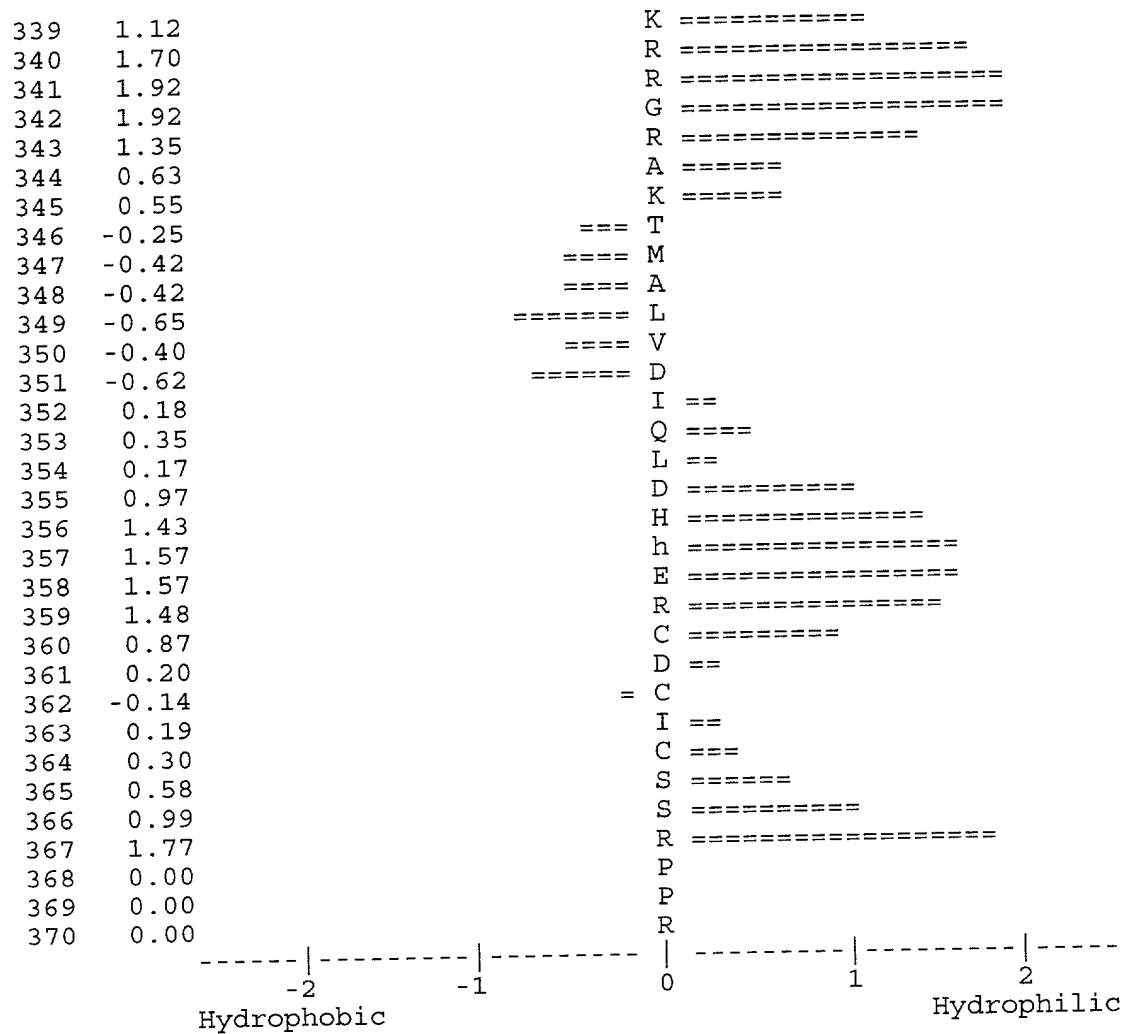
|     |       |         |       |
|-----|-------|---------|-------|
| 54  | 1.17  | E       | ===== |
| 55  | 0.42  | T       | ===== |
| 56  | 0.42  | I       | ===== |
| 57  | -0.08 | = Q     |       |
| 58  | 0.02  | V       |       |
| 59  | 0.32  | K       | ===== |
| 60  | -0.10 | = G     |       |
| 61  | -0.10 | = N     |       |
| 62  | -0.57 | ===== G |       |
| 63  | -0.52 | ===== Y |       |
| 64  | -0.55 | ===== V |       |
| 65  | -0.05 | Q       |       |
| 66  | -0.08 | = S     |       |
| 67  | 0.17  | P       | ===== |
| 68  | 0.17  | R       | ===== |
| 69  | 0.17  | F       | ===== |
| 70  | 0.18  | P       | ===== |
| 71  | -0.32 | ==== N  |       |
| 72  | 0.60  | S       | ===== |
| 73  | 0.63  | Y       | ===== |
| 74  | 0.30  | P       | ===== |
| 75  | -0.05 | R       |       |
| 76  | -0.37 | ==== N  |       |
| 77  | -0.43 | ==== L  |       |
| 78  | -1.50 | ===== L |       |
| 79  | -1.03 | ===== L |       |
| 80  | -1.03 | ===== T |       |
| 81  | -0.82 | ===== W |       |
| 82  | -0.47 | ===== R |       |
| 83  | -0.37 | ===== L |       |
| 84  | 0.70  | H       | ===== |
| 85  | 0.23  | S       | ===== |
| 86  | 0.47  | Q       | ===== |
| 87  | 1.05  | E       | ===== |
| 88  | 0.70  | N       | ===== |
| 89  | 0.70  | T       | ===== |
| 90  | -0.10 | = R     |       |
| 91  | -0.38 | ==== I  |       |
| 92  | -0.73 | ===== Q |       |
| 93  | -0.73 | ===== L |       |
| 94  | -0.40 | ==== V  |       |
| 95  | -0.40 | ==== F  |       |
| 96  | -0.52 | ===== D |       |
| 97  | -0.27 | ==== N  |       |
| 98  | -0.15 | = Q     |       |
| 99  | -0.15 | = F     |       |
| 100 | 0.32  | G       | ===== |
| 101 | 0.20  | L       | ===== |
| 102 | 1.12  | E       | ===== |
| 103 | 1.15  | E       | ===== |
| 104 | 1.95  | A       | ===== |
| 105 | 1.15  | E       | ===== |
| 106 | 0.48  | N       | ===== |
| 107 | 1.07  | D       | ===== |
| 108 | 0.18  | I       | ===== |
| 109 | 0.65  | C       | ===== |
| 110 | -0.27 | ==== R  |       |

|     |       |       |         |
|-----|-------|-------|---------|
| 111 | -0.22 | ==    | Y       |
| 112 | 0.45  |       | D ===== |
| 113 | -0.30 | ===   | F       |
| 114 | 0.58  |       | V ===== |
| 115 | 0.58  |       | E ===== |
| 116 | 0.70  |       | V ===== |
| 117 | 1.00  |       | E ===== |
| 118 | 1.00  |       | D ===== |
| 119 | 1.18  |       | I ===== |
| 120 | 0.73  |       | S ===== |
| 121 | 0.17  |       | E ==    |
| 122 | 0.17  |       | T ==    |
| 123 | -0.18 | ==    | S       |
| 124 | -0.18 | ==    | T       |
| 125 | -0.12 | =     | I       |
| 126 | 0.33  |       | I ===   |
| 127 | -0.17 | ==    | R       |
| 128 | -0.03 |       | G       |
| 129 | 0.27  |       | R ===   |
| 130 | -0.32 | ===   | W       |
| 131 | 0.18  |       | C ==    |
| 132 | 0.18  |       | G ==    |
| 133 | 0.50  |       | H ===== |
| 134 | 0.67  |       | K ===== |
| 135 | 0.67  |       | E ===== |
| 136 | 1.25  |       | V ===== |
| 137 | 0.45  |       | P ===== |
| 138 | 0.45  |       | P ===== |
| 139 | 0.75  |       | R ===== |
| 140 | 1.25  |       | I ===== |
| 141 | 1.18  |       | K ===== |
| 142 | 0.72  |       | S ===== |
| 143 | 1.05  |       | R ===== |
| 144 | 0.25  |       | T ===   |
| 145 | 0.70  |       | N ===== |
| 146 | -0.10 | =     | Q       |
| 147 | -0.10 | =     | I       |
| 148 | -0.55 | ===== | K       |
| 149 | -0.08 | =     | I       |
| 150 | 0.27  |       | T ===   |
| 151 | 0.27  |       | F ===   |
| 152 | 1.07  |       | K ===== |
| 153 | 0.75  |       | S ===== |
| 154 | 0.75  |       | D ===== |
| 155 | 0.00  |       | D       |
| 156 | -0.13 | =     | Y       |
| 157 | -0.13 | =     | F       |
| 158 | -0.63 | ===== | V       |
| 159 | -0.25 | ===   | A       |
| 160 | -0.25 | ===   | K       |
| 161 | 0.50  |       | P ===== |
| 162 | 0.28  |       | C ===   |
| 163 | -0.60 | ===== | F       |
| 164 | -0.98 | ===== | K       |
| 165 | -0.93 | ===== | I       |
| 166 | -0.82 | ===== | Y       |
| 167 | -1.62 | ===== | Y       |

|     |       |       |         |
|-----|-------|-------|---------|
| 168 | -0.82 | ===== | S       |
| 169 | 0.07  |       | L =     |
| 170 | 0.03  |       | L       |
| 171 | 0.02  |       | E       |
| 172 | 0.32  |       | D ===   |
| 173 | 0.53  |       | F ===== |
| 174 | -0.05 |       | = Q     |
| 175 | -0.63 | ===== | P       |
| 176 | -0.17 | ==    | A       |
| 177 | 0.30  |       | A ===   |
| 178 | 0.23  |       | A ==    |
| 179 | 0.35  |       | S ===== |
| 180 | 0.27  |       | E ===   |
| 181 | 0.85  |       | T ===== |
| 182 | 0.85  |       | N ===== |
| 183 | 0.10  |       | w =     |
| 184 | 0.10  |       | E =     |
| 185 | 0.12  |       | S =     |
| 186 | 0.33  |       | V ===   |
| 187 | -0.47 | ===== | T       |
| 188 | -1.08 | ===== | S       |
| 189 | -0.83 | ===== | S       |
| 190 | -1.02 | ===== | I       |
| 191 | -1.02 | ===== | s       |
| 192 | -1.45 | ===== | G       |
| 193 | -1.12 | ===== | V       |
| 194 | -0.50 | ===== | S       |
| 195 | -0.50 | ===== | Y       |
| 196 | -0.20 | ==    | N       |
| 197 | -0.50 | ===== | S       |
| 198 | -0.18 | ==    | P       |
| 199 | 0.28  |       | S ===   |
| 200 | 0.23  |       | V ==    |
| 201 | 0.17  |       | T ==    |
| 202 | -0.18 | ==    | D       |
| 203 | -0.23 | ==    | P       |
| 204 | -0.25 | ===   | T       |
| 205 | -0.25 | ===   | L       |
| 206 | -0.33 | ===   | I       |
| 207 | -0.57 | ===== | A       |
| 208 | 0.23  |       | D ==    |
| 209 | 1.03  |       | A ===== |
| 210 | 1.62  |       | L ===== |
| 211 | 0.82  |       | D ===== |
| 212 | 0.82  |       | K ===== |
| 213 | 1.62  |       | K ===== |
| 214 | 0.70  |       | I ===== |
| 215 | 0.70  |       | A ===== |
| 216 | 0.13  |       | E =     |
| 217 | 0.18  |       | F ==    |
| 218 | 0.77  |       | D ===== |
| 219 | 0.77  |       | T ===== |
| 220 | 0.88  |       | V ===== |
| 221 | 0.08  |       | E =     |
| 222 | 0.65  |       | D ===== |
| 223 | 0.52  |       | L ===== |
| 224 | -0.40 | ===== | L       |

|     |       |       |         |
|-----|-------|-------|---------|
| 225 | -0.87 | ===== | K       |
| 226 | -0.57 | ===== | Y       |
| 227 | 0.23  |       | F ==    |
| 228 | -0.22 | ==    | N       |
| 229 | 0.00  |       | P       |
| 230 | 0.45  |       | E ===== |
| 231 | 0.92  |       | S ===== |
| 232 | 1.42  |       | w ===== |
| 233 | 0.62  |       | Q ===== |
| 234 | 1.07  |       | E ===== |
| 235 | 1.27  |       | D ===== |
| 236 | 1.02  |       | L ===== |
| 237 | 0.13  |       | E =     |
| 238 | -0.67 | ===== | N       |
| 239 | 0.13  |       | M =     |
| 240 | -0.43 | ===== | Y       |
| 241 | -0.47 | ===== | L       |
| 242 | 0.25  |       | D ===   |
| 243 | 0.65  |       | T ===== |
| 244 | 1.45  |       | P ===== |
| 245 | 0.95  |       | R ===== |
| 246 | 1.52  |       | Y ===== |
| 247 | 1.57  |       | R ===== |
| 248 | 1.08  |       | G ===== |
| 249 | 0.98  |       | R ===== |
| 250 | 0.98  |       | S ===== |
| 251 | 1.48  |       | Y ===== |
| 252 | 1.48  |       | H ===== |
| 253 | 1.48  |       | D ===== |
| 254 | 1.97  |       | R ===== |
| 255 | 1.80  |       | K ===== |
| 256 | 1.80  |       | S ===== |
| 257 | 1.00  |       | K ===== |
| 258 | 1.00  |       | V ===== |
| 259 | 1.45  |       | D ===== |
| 260 | 0.65  |       | L ===== |
| 261 | 0.93  |       | D ===== |
| 262 | 0.93  |       | R ===== |
| 263 | 1.73  |       | L ===== |
| 264 | 1.15  |       | N ===== |
| 265 | 1.15  |       | D ===== |
| 266 | 1.95  |       | D ===== |
| 267 | 1.93  |       | A ===== |
| 268 | 1.48  |       | K ===== |
| 269 | 0.82  |       | R ===== |
| 270 | 0.83  |       | Y ===== |
| 271 | 0.33  |       | S ===   |
| 272 | 0.33  |       | C ===   |
| 273 | 0.35  |       | T ===   |
| 274 | 0.32  |       | P ===   |
| 275 | 0.53  |       | R ===== |
| 276 | 0.35  |       | N ===== |
| 277 | 0.38  |       | Y ===== |
| 278 | -0.42 | ===== | S       |
| 279 | 0.05  |       | V =     |
| 280 | 0.53  |       | N ===== |
| 281 | 0.98  |       | I ===== |

|     |       |       |   |       |
|-----|-------|-------|---|-------|
| 282 | 0.93  |       | R | ===== |
| 283 | 1.40  |       | E | ===== |
| 284 | 1.40  |       | E | ===== |
| 285 | 0.82  |       | L | ===== |
| 286 | 0.35  |       | K | ===== |
| 287 | -0.40 | ===== | L |       |
| 288 | -0.35 | ===== | A |       |
| 289 | -1.27 | ===== | N |       |
| 290 | -1.38 | ===== | V |       |
| 291 | -1.30 | ===== | V |       |
| 292 | -0.83 | ===== | F |       |
| 293 | -0.75 | ===== | F |       |
| 294 | -0.80 | ===== | P |       |
| 295 | -0.68 | ===== | R |       |
| 296 | -0.52 | ===== | C |       |
| 297 | -0.48 | ===== | L |       |
| 298 | -0.48 | ===== | L |       |
| 299 | -0.48 | ===== | V |       |
| 300 | -0.18 | ==    | Q |       |
| 301 | 0.12  |       | R | =     |
| 302 | 0.40  |       | C | ===== |
| 303 | 0.20  |       | G | ==    |
| 304 | -0.30 | ====  | G |       |
| 305 | -0.30 | ====  | N |       |
| 306 | -0.87 | ===== | C |       |
| 307 | -0.93 | ===== | G |       |
| 308 | -1.22 | ===== | C |       |
| 309 | -1.02 | ===== | g |       |
| 310 | -1.58 | ===== | T |       |
| 311 | -0.92 | ===== | V |       |
| 312 | -0.30 | ====  | N |       |
| 313 | -0.40 | ===== | W |       |
| 314 | -0.22 | ==    | R |       |
| 315 | -0.42 | ===== | S |       |
| 316 | 0.18  |       | C | ==    |
| 317 | -0.27 | ====  | T |       |
| 318 | -0.32 | ===== | C |       |
| 319 | 0.35  |       | N | ===== |
| 320 | 0.35  |       | S | ===== |
| 321 | 0.27  |       | G | ===== |
| 322 | 0.73  |       | K | ===== |
| 323 | 1.18  |       | T | ===== |
| 324 | 1.20  |       | V | ===== |
| 325 | 0.62  |       | K | ===== |
| 326 | 1.18  |       | K | ===== |
| 327 | 1.18  |       | Y | ===== |
| 328 | 0.38  |       | H | ===== |
| 329 | -0.08 | =     | E |       |
| 330 | -0.52 | ===== | V |       |
| 331 | 0.07  |       | L | =     |
| 332 | -0.43 | ===== | Q |       |
| 333 | -0.18 | ==    | F |       |
| 334 | 0.03  |       | E |       |
| 335 | -0.30 | ===== | P |       |
| 336 | 0.62  |       | G | ===== |
| 337 | 0.62  |       | H | ===== |
| 338 | 1.12  |       | I | ===== |



FIGURE